

Amendment to Specification

Page 1, Please add the following paragraphs after: **“Description of the Related Art”**

Charge coupled devices are currently known in the art and used of image sensing in digital cameras, and the like. Correcting such image data is often causes problems in conventional systems. More particularly, these problems are often due to the large amount of memory required for storage of the image data and the variables utilized in the arithmetic operations needed to implement the correction of image data sensed by charge coupled devices.

Therefore, it can be seen that a need exists for an apparatus and method that can manipulate the image data sensed by a charge coupled device to correct any errors to such image data more efficiently by reducing the use of computing resources such as memory and increasing throughput of any needed data manipulation operations.

Summary of the Invention

In contrast to the prior art, an apparatus and a method for correcting image data detected by an image sensor is provided which uses less memory space and fewer arithmetic operation executions. A data correction apparatus of the present invention comprises an operation memory for storing expansion coefficient array data and basis function array data, which includes data of expansion coefficients and function values of a basis function for orthogonally expanding a high order polynomial for correcting input image data; and an

operation part for correcting the input image data using the expansion coefficient array data and the basis function array data. With the use of the apparatus of the present invention, the processing time of the operation part can also be minimized.

Brief Description of the Drawings

Figure 1 is a schematic of an apparatus for image data correction of the present invention;

Figure 2 is a flow chart showing a method for data correction using the data correction apparatus of the present invention;

Figures 3(a) and 3(b) depict the storing of the coefficients for each set of CCD elements in the operation memory, and the storing of the obtained operation data in the operation memory, respectively;

Figure 4 is a graphical representation of a Chebyshev function; and

Figure 5 is a graphical comparison of various polynomials.